

PRESTRESSED CONCRETE DESIGN OF A VIADUCT

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ABSTRACT

The title of my project is 'Prestressed Concrete Design of a Viaduct'. The objective of the project is to design a prestressed beam for the viaduct. This report has been compiled in such a way that the layout of the viaduct and the process of design. Firstly, technical drawings for all structural elements will be carried out. It is because all the dimension is proceed in the drawing and it will more easily for further calculation.

The main structure (prestressed beam) is designed based on the British Standard Code, BS5400 (Steel, concrete and composite bridge). Determine the loads are very important in design; BS5400 Part 2 is specification for loads. The prestress losses are based on BS5400 Part 4 and BS8110 Part 2. Prestressed concrete is design for serviceability limit state and ultimate limit state for checking.

The sub structures like slab, capping beam, column and abutment are mainly a reinforced concrete design based on British Standard Code (BS Code 8110). The ultimate limit state for design and serviceability limit state for checking. The outcomes of the structural design are the structural key plans and the detailing of structure, which I have attached to the Body of this report.